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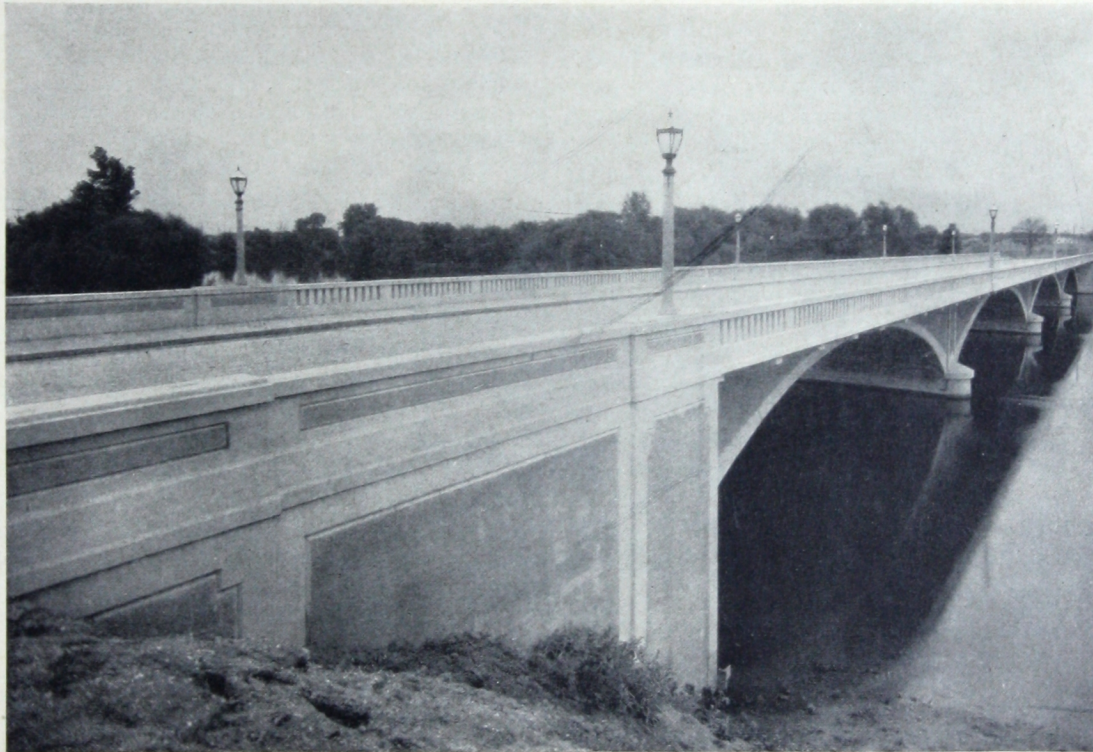
A. I. A. File No. 4-i-1
Concrete—Con-Tex



Improving and Extending the Uses of Concrete with Con-Tex*



Cement Dressing



Producing Texture and Color in Concrete Construction

Bulletin No. 1 ~ Series 1928

CONCRETE SURFACE CORPORATION
342 Madison Avenue New York City

A. I. A. File No. 4-i-1
Concrete—Con-Tex

*Use of this slogan by permission of Portland Cement Association

What Con-Text is and how it is used to Surface Concrete



CON-TEXT is a free-flowing, quick-drying liquid, applied to forms, or, in top-surface work and in stucco work or mortar-finish work where there are no forms, applied directly to the surface of the fresh concrete, stucco or mortar, for the purpose of producing a

superior and permanent surface finish thereon.

Con-Text, whether brushed on forms or applied directly, surfaces concrete or stucco or mortar by preventing the setting of the cement *at the surface only* and to a predetermined depth. This depth of action is dependent upon the "grade" or strength of Con-Text used as described in detail in the text of this brochure.

When the interior of the concrete or mortar has hardened in the normal manner, this sand-like, unset surface produced by the Con-Text action is readily removed by brushing-off, thus exposing the aggregates either for beauty or for bonding or other utilitarian purposes.

Con-Text has no continuing action. Con-Text is not acid or harmful, so that it may be used with wood or steel forms. Con-Text will not affect old concrete or set and hardened concrete.

Con-Text when applied before final set and used according to directions, surfaces any concrete made with any good sand, stone, gravel or slag or any other aggregate commonly employed, and with any Portland cement or with Special cements, such as quick-hardening Portland cements, or White Portland cement or Lumnite cement.

The only labor required is that of applying Con-Text, either to forms or directly to surfaces and brushing off the loose material at the surface kept unset by Con-Text after the unaffected cement has hardened.

The only tools required are a three knot bristle roofer's brush or a standard bristle paint brush for apply-

ing Form Con-Text; a soft bristle brush or a spray machine, either hand or power, for applying Top Surface Con-Text or Stucco Con-Text; and wire brushes or (in the case of floor-slab tops, roadway surfacing and like uses) wire brooms for removing loose surface material as a finishing operation.

The two general kinds of Con-Text bear names that are self-explanatory.

Form Con-Text is used by painting it on forms before concrete is cast. It dries quickly and forms a *hard, weather-resistant coating* on the forms, whether they are steel, or wood, or other materials.

Top Surface Con-Text is used by applying it by soft brushes or by a spray, directly on the concrete itself, as in surfacing roadways, floor slabs, plaza areas, etc. It dries more slowly but *forms a soft film* over the concrete, which may be easily brushed off at the proper time.

Stucco Con-Text is a variety of Top Surface Con-Text, specially adapted for use on stucco. It is sprayed on or brushed directly on the stucco after screeding and troweling and gives a very light reveal.

Both Form Con-Text and Top Surface Con-Text are made in four "grades" or "strengths" each. These grades are: *Light, Medium, Heavy* and *Bonding grades*.

By these several strengths or "grades," a reveal, or depth of uncovering suited to the size of aggregate of the concrete, may be readily had.

Bonding Grade Con-Text, as its name indicates, reveals stone to a depth best suited for bonding of materials later to be applied, such as plaster, stucco, tiling, cork, waterproofings, etc., etc.

Stucco Con-Text is made in one grade only, suited to a very light reveal as a surface finish on stucco.

All of the above kinds and grades of Con-Text are supplied in 1 gallon and 5 gallon containers only.

* * * * *

Specifications for Con-Text and the uses of Con-Text treated herein are at the end of this brochure.

Specifications for concrete are on the back page. These specifications will well repay any study devoted to them and will be found practical in the field for any and all uses of concrete.

NOTE: The 1928 Series of Brochures on Con-Text and on Concrete Construction comprise the following:

No. 1—Producing Texture and Color in Concrete Construction.

No. 2—Producing Bonding Surface on Concrete for Plaster Bond, Stucco Bond, Floor-topping Bond, etc.

No. 3—The Con-Text System of All-Concrete Construction for Buildings.

No. 4—Surfacing Roads and Pavements with Con-Text.

No. 5—Producing Permanent Stucco Work on Concrete.

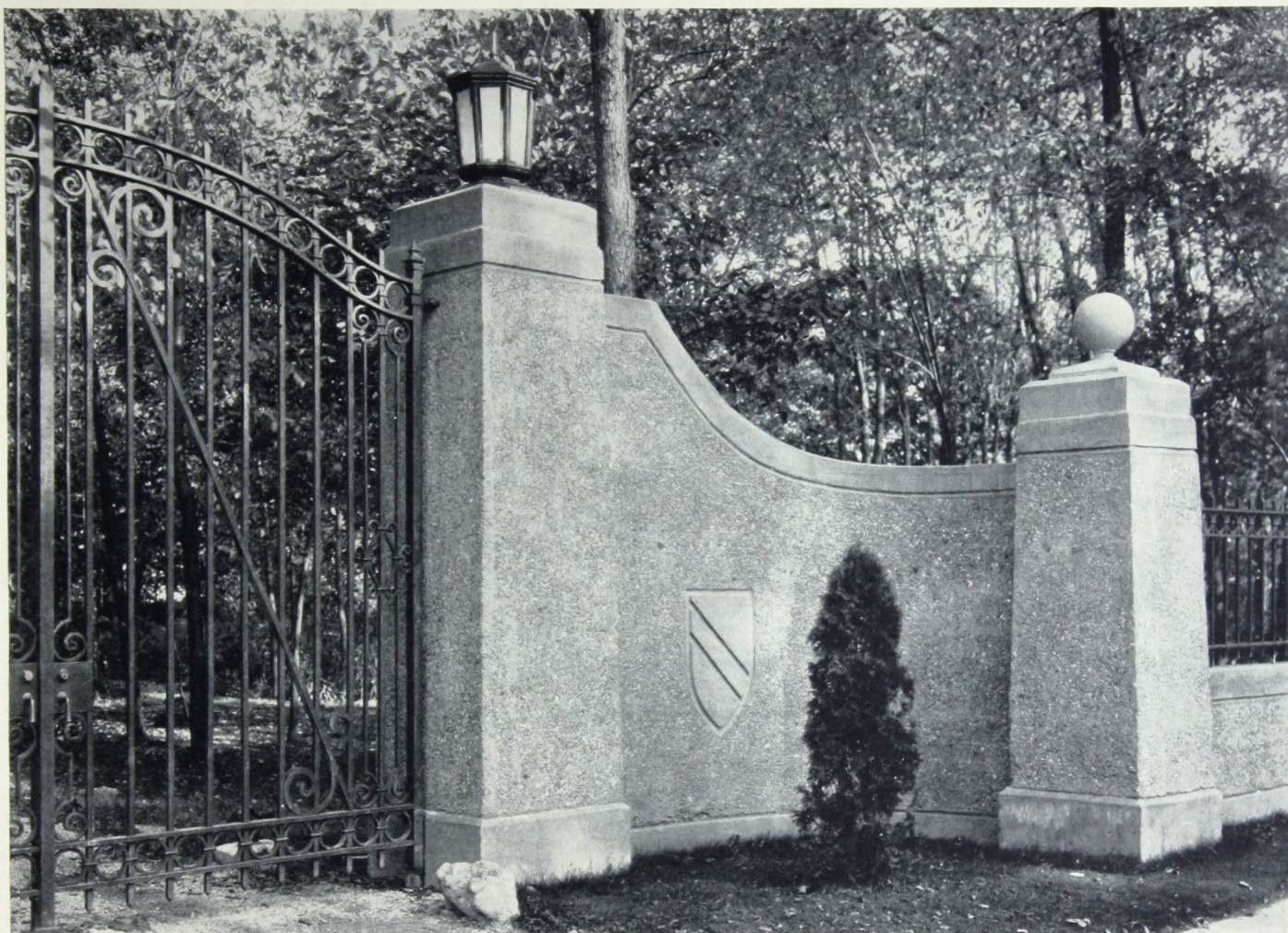
No. 6—Producing Locked-on Waterproofing Surfaces on Concrete.

No. 7—Producing Plaster Bond Surfaces for Plastering on Concrete.

No. 8—Producing Bonded Concrete Floor Surfaces free from Cracking, Dusting and Scaling.

Any or all of these Copyrighted Brochures may be had on application to

CONCRETE SURFACE CORPORATION, 342 Madison Avenue, New York City



Surfaced Concrete Gateway and Fence—Estate of Maynard D. Smith, Port Huron, Michigan.

Producing Texture and Color in Concrete with Con-Tex

CON-TEX surfacing makes concrete a material of the highest quality, lending itself to a new and limitless field of architectural use, as well as to new and better fields of structural uses. The Con-Tex treatment removes from the concrete the objectionable, uninteresting, blinding skin of cement, exposes the colorful aggregates, and produces a surface with texture and character and of enduring permanence.

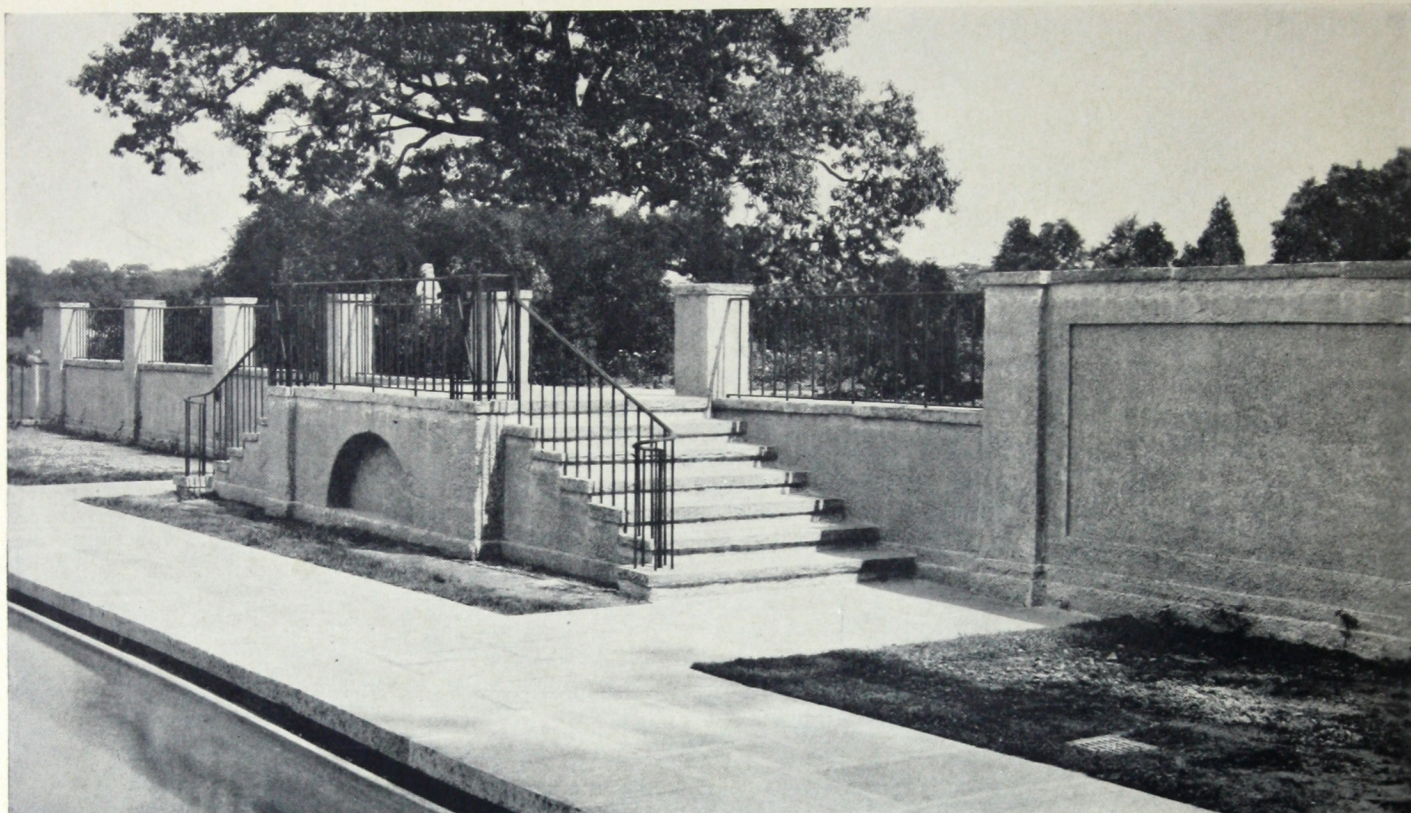
Concrete, as it comes from forms or is floated to a finish by hand, possesses an unpleasing texture and is unlovely in color. Form marks and other blemishes on many physically excellent constructions cause an appearance that is unworthy of the designers, the builders, the owners and of all who labored to bring these structures into being.

These inborn blemishes cannot be concealed, except for a temporary surface regularity, by old-style efforts, such as "washing and floating" (i. e., applying a grout of cement and

rubbing this more or less into the surfaces). Time, weather and the natural refusal of cement or other plastics to permanently bond to the skin surface of concrete causes them to peel and scale, with sooner or later a cropping-out once again of all the original blemishes, plus an eczematic patchiness resulting from the uneven and non-uniform loss of this thin, cement dressing.

The Hidden Value and Beauty of Concrete Surface Developed by Con-Tex

It has long been known that just below this unpleasing form-skin surface of concrete are materials that possess desirable properties. Many years ago a realization of this fact inspired acid-washed-and-scrubbed surfaces of revealed aggregates. The use of such surfaces as media of architectural expression reached enviable heights under a few skillful practitioners who were willing to take



Natural Materials Blending with Nature. Con-Texted Concrete on Estate of Mr. Victor Emmanuel, Glen Cove, Long Island, New York.
A. E. Brinckerhoff, Architect.

great pains, but because of the cost and difficulty of execution, the use of these desirable finishes never attained general usage in the art.

But with the invention and development of Con-Text by Nathan C. Johnson, of Hool and Johnson, these difficulties and limitations have been overcome. Con-Text, through the use of applied science in place of brute force, such as toolings, or of eating-away agents, such as acids, makes possible the production of surfaced concrete which rivals in appearance and quality the highest-price building materials by anyone, and at a cost no greater and even less than the cost of the old and unsatisfactory wash-and-float method.

Con-Text No Substitute for Good Work

Even with its great ability and utility in surfacing concrete, Con-Text is not a substitute for skill or workmanship in making concrete. If the aggregate is not distributed uniformly, if there are muck streaks, if the stone has been pushed back from the surface by spading, or if there are diagonal pour lines, the result from a finished-surface standpoint may not be all that was desired. But if these errors are avoided by use of the specifications given later in this book and by seeing their provisions carried out in the field, Con-Text will be found to fully do its part and to the advantage and betterment of any construction in concrete.

To all those who desire and require that concrete shall be uniform, who appreciate the value of creating things really

worth while, and delight in texture and color, Con-Text for revealed architectural surfaces is offered with pleasure as well as assurance. Through Con-Text, concrete becomes a material of new and boundless values as well as of unlimited constructional applications.

Con-Text Surfaces are Weather Resistant

Many have had the misapprehension that a rich cement skin-surface was the best weather protection for concrete. But it is now a known fact that this cement skin surface acts as a "blotter" which not only absorbs water but forces it back into the body of the mass by an actual pressure of many pounds per square inch, with corresponding damage to the concrete as a whole through this forced saturation.

Therefore it is advantageous to do away with this highly-absorbent skin, and reveal the non-absorbent aggregate underneath. The possibly absorptive (mortar) area is thus cut down as much as 80%, this percentage being the average area in revealed surfaces that is made up of impervious sand and stone areas. Through this simple operation, then, greater permanence as well as beauty are obtained by surfacing with Con-Text.

Con-Texted Surfaces Offer Variety and Color

Con-Text itself does not color concrete. It does, however, make possible the use of materials in great variety that possess color, and with most



Bridge: Great Lakes Naval Training Station, U. S. Navy, Great Lakes, Illinois.

artistic effects. For instance, the architectural possibilities of colored aggregates for concrete have long been known, but utilization of these possibilities has been very difficult. A cement film over them concealed their color and bush-hammering or point-tooling destroyed or impaired their color values by pulverizing their surfaces, so that they appeared as would powdered glass, or other non-refractive substances.

By the Con-Tex process, aggregates of ornamental value can be revealed in all their natural beauty. Aggregate contrasting agreeably with the color of set cement in the mortar can be used, or coloring pigments may be added to the cement mortar mixture to contrast with the aggregate. Very pleasing effects can be obtained by using white Portland cement and colored aggregates. The flexibility and range offered in these and in other ways through surface-developing concrete makes the uses of Con-Tex unlimited.

The Grades of Con-Tex and Depth of Action As Con-Tex reacts only with the surface cement in the concrete, the depth of reveal with any grade of Con-Tex depends upon the amount of cement present. If the concrete is richer than 1 : 2 : 4, then the amount of action for the same grade of Con-Tex will be less; and in case the concrete is leaner, the reveal will be deeper.

Based on the usual cement content of an even and uniform mixture of 1 : 2 : 4 concrete the following table may be referred to in specifying and ordering Form Con-Tex:

For Fine Surface Molds of Metal, Wood, etc.

LIGHT GRADE gives about $\frac{3}{32}$ " reveal—used with grits to stone of $\frac{1}{4}$ " size.

For Wood Forms or Metal Forms in Field Use

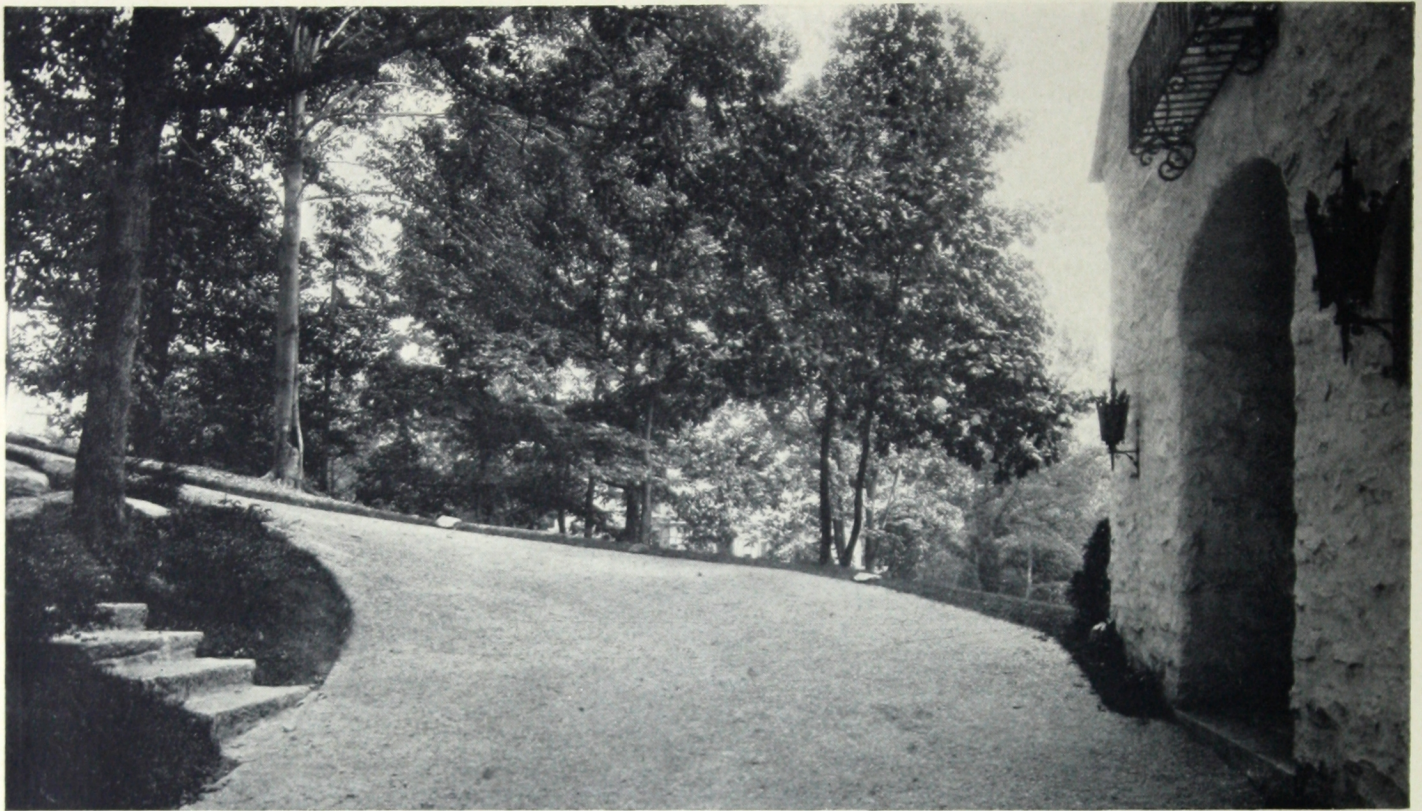
MEDIUM GRADE gives about $\frac{3}{16}$ " reveal—used with stone $\frac{3}{8}$ " to 1" in size in finished surfaces.

HEAVY GRADE gives about $\frac{3}{8}$ " reveal—used with stone $\frac{3}{4}$ " and larger stone in finished surfaces.

BONDING GRADE gives about $\frac{5}{16}$ " reveal—suited to the average run of commercial stone where a bonding surface is desired.

How Form Con-Tex is Used Form Con-Tex of all grades is a reddish-colored, quick-drying, varnish-like liquid. It is non-acid and non-poisonous and affects only the cement *at the surface of concrete*. It will not injure the forms, but tends, rather, to preserve them, through preventing absorption by forms of the strongly alkaline fluids of concrete. Either steel forms or wood forms may be used with equal success.

Con-Tex should be stirred thoroughly in its container; and when thoroughly stirred, is applied to the forms in an even coat. For this purpose a 3-knot, roofer's brush with a short handle is preferably used. This should be a bristle brush, and preferably "rubber-set." Wood fibre brushes, such as whitewash brushes, should never be used as they



The Color and Texture of Natural Stone is obtained in Concrete Roads and Driveways by the use of Top Surface Con-Tex.
Estate of Mr. J. H. Adair, Washington, D. C.

apply too much Con-Tex on the forms, and require more labor than do brushes of proper quality.

The coating on the forms should cover all areas where exposed aggregate is desired. It should be a good average coat—neither too thick, nor too thin. This will quickly dry; and when fully dry, is quite impervious to weather.

Concrete, when cast against this Con-Tex form coating, liberates the active materials from Con-Tex, which are set-preventing substances. By the perfected Con-Tex process, the liberation of these actives is controlled and even throughout the area, so that, with an even mixture of concrete, there will not be a greater action in one part than in another.

Removing Forms and Brushing Off When the concrete has sufficiently set, forms are removed. A surface layer of the concrete will be found soft and easily removed by wire brushes to a limited depth.

This brushing-down should be done as soon as the forms are removed. With a coarse brush in one hand and a fine brush in the other, a laborer will rapidly clean off large areas of surface and at a cost that should not exceed $\frac{1}{4}$ c per square foot. The coarse brush should first be used flat, like a plane. The finer brush then is used to get the desired texture by brushing out between the stones.

If brushing is done at the proper time, this procedure will result in a clean and uniform exposure of the stone aggregate

and as a final cleansing operation on completion, a wash-down with hydrochloric acid, as in brick work, is advisable.

How Top Surface Con-Tex is Used Top Surface Con-Tex is a smooth, brownish liquid and is applied directly to the concrete, after finishing.

As neither Top Surface Con-Tex nor Form Con-Tex will affect set and hardened concrete, but will achieve their result only in the early and formative stages of the cement reaction, Top Surface Con-Tex must be applied before set has progressed too far. The exact time depends both on the weather and the temperature, as well as on the brand of cement used, but a little experimenting at the job easily determines the proper time, both for applying Top Surface Con-Tex and for brushing off the surface.

Top Surface Con-Tex is best applied by means of a hand or power spray. It may also be applied by soft brushes, or by pouring out a pool of Con-Tex on the surface and spreading it with squeegees or brooms. Contractors are supplied by us with special directions for concreting and for using Con-Tex with each shipment of material.

Brushing Off the Surface At a period of from 24 to 40 hours after applying Top Surface Con-Tex, depending on temperature and other factors before noted, the treated top surface of the concrete is brushed



The ornamental uses of Con-Texed Concrete are suggested in this fountain basin at Steele High School, Dayton, Ohio.

off thoroughly with wire brooms. The Top Surface Con-Tex coating comes off with the loosened material, all of which should be thoroughly removed from the surface. A final washing with water is often advantageous.

The Cost of Con-Tex Surfacing The cost of any Con-Tex treatment may be divided in two main parts—labor and material. The material cost of Form Con-Tex for finished surfaces is $3\frac{1}{2}$ c to 5c per sq. ft., according to the skill acquired in its use, and the understanding and efficiency of the gang. The labor cost of applying Form Con-Tex to the forms plus brushing off the surface after removing forms averages less than 1c per square foot.

The total cost of the Con-Tex treatment for *Finished Surfaces in forms* will thus run about $4\frac{1}{2}$ c to 6c per sq. ft., including the cost of the Con-Tex, its applications to forms, and brushing off the concrete surfaces.

The cost of Con-Tex treatment for *Bond Surfaces in form work* will average $3\frac{1}{2}$ c to 5c per sq. ft., inclusive of labor and material as above. Where large areas are Bond Surfaced, the cost is less.

The cost of the Finished Top Surface Reveal work, including labor and material, is about 3c to 5c per sq. ft., depending upon whether or not a spray is used and the efficiency and skill of the labor gang.

The cost of Top Surface Bonding Surface work is about one cent less, or 3c to 4c per sq. ft.

The foregoing costs are derived from our accumulated data and are believed to be substantially correct. We believe the upper range of cost cited is the maximum, even with wastage of Con-Tex and inefficiency in its use.

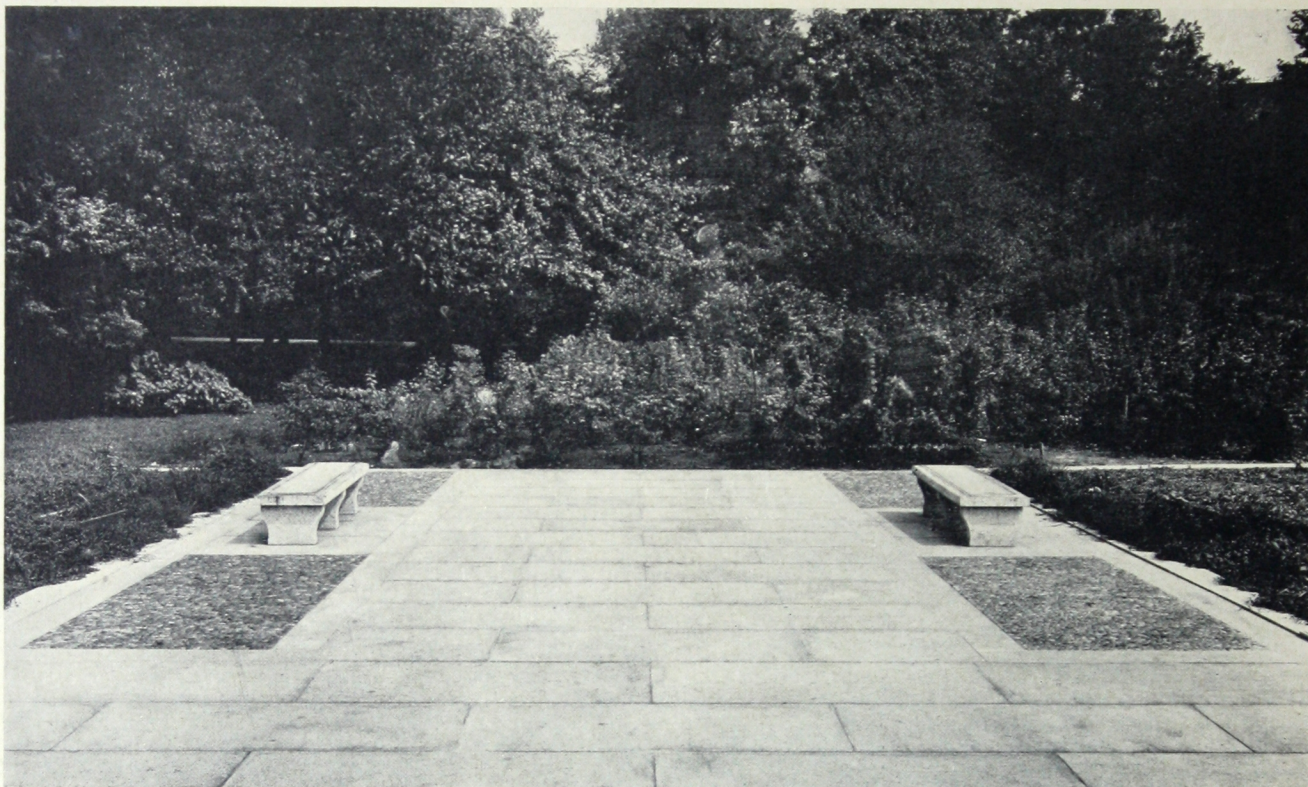
A Word about Forms for Finished Surfaces The better, more rigid and more even the forms are for finished surface work, the better will be the final result.

Con-Tex is a wonderful material, but it cannot correct warping of forms, holes or cracks in forms through which mortar leaks, nor can Con-Tex take away bulges or hollows from concrete that is cast in weak forms, or forms that are out of line, or that have wide spaces between the form boards.

It seems almost needless to say that forms of tongue-and-groove lumber, well braced and true to line are preferable to forms of ship-lap or square-edge lumber for finished surface work.

Bonding surfaces, which are to be covered by other material as a finish coat, do not require any special excellence in forms.

A Word as to Concreting for Finished Surfaces Concrete, made in "the good old way" of 1 : 2 : 4 and with yardage per diem as a standard of excellence and value, is too often an irregular and undependable material. No laboratory refinements of any kind



Plaza of Surfaced Concrete and Granite, Meade Memorial, Washington, D. C. Simon and Simon, Architects, Philadelphia.
Raymond Burrowes, Constructor, Washington.

are advocated by us for field work, but attention is called to the short specifications on page 12 in which a basis of proportioning and a general method of practice is stipulated. These specifications have the rare merit both of allowing for field conditions, good and bad, and of producing a high type of result in all instances. It is recommended that they be incorporated in working specifications by architects, engineers and others desiring to use surfaced concrete.

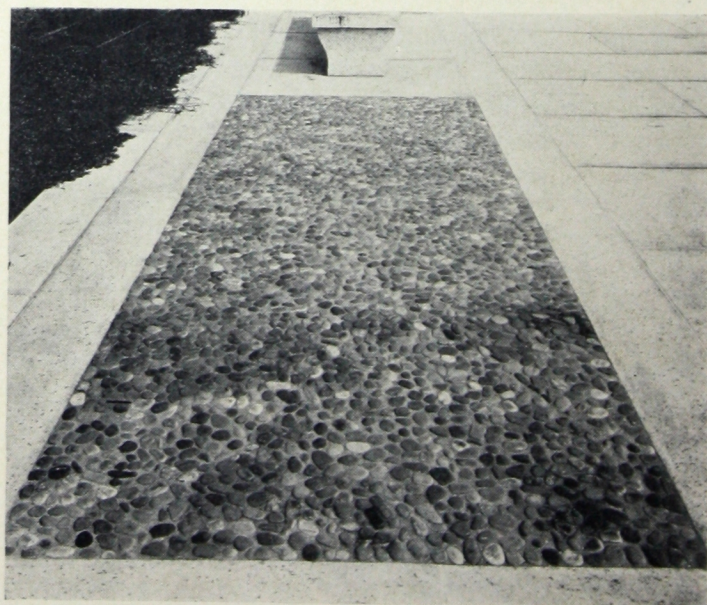
The Field for Con-Tex The field for surfaced concrete is limitless. Whether in city or country, beauty is preferable to unsightliness, even in a construction that is wholly utilitarian. Concrete and its physical abilities and attributes are established and accepted. Concrete is used universally, both because of these qualities and also because of its economies over other materials.

Concrete surface finished by Con-Tex, is no less able, no less permanent and no less economical than concrete has always been, but in addition, it takes on new values. The old homeliness is gone and in its place is an unspoiled natural material of real beauty that is not an imitation of anything.

Because of the pride of achievement that designers, builders, owners and the artisans themselves desire to see justified in the final appearance of their work, Con-Texed concrete is finding widespread favor. Inasmuch as Con-Tex makes easy the attainment of new and better qualities in concrete than have been known before, it is the part of wisdom and good judgment to have every structure an accept-

able and artistic object, rather than one that, in a few years will have lost its distinction and possibly be most unfortunate in appearance.

Surface Finishes Applied A variety of Con-Tex finished over Bonding Surfaces surfaces that is meeting widespread favor and use is obtained by using Bonding Con-Tex over the entire concrete



A detail of the exposed Concrete plaza areas at the Meade Memorial, Washington, D. C.

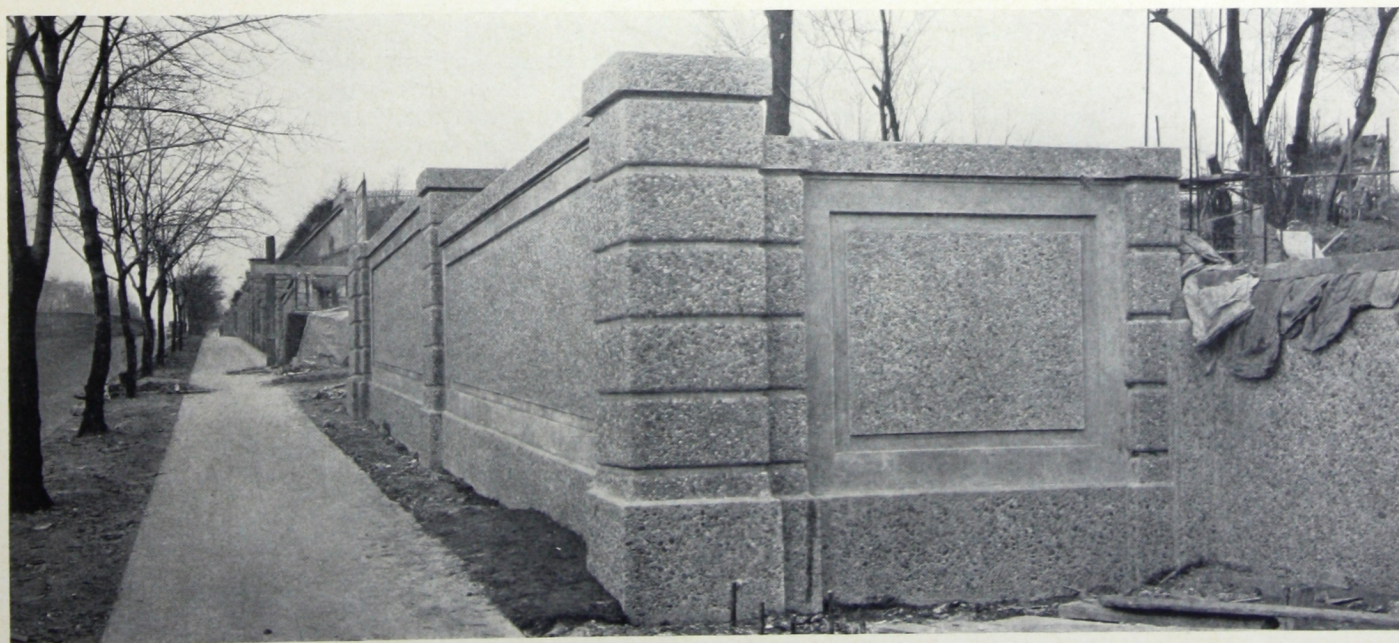


Con-Texted Entrance to Cloisters, Civic Center, Lakeland, Florida. H. B. Trauger, Constructor.

surface area to obtain a rough, clean-stone surface that will give a sure and permanent bond. On this surface are later applied the finishing materials, whatever their nature may be. Also, where panelling or borders or contrasting color-effects free of all board or form-marks are desired, the same procedure of producing a bonding surface is resorted to, with a putting-back in hand-plastered mortars or stuccos, or Con-Text-revealed precast ornamental units, of such areas and/or of such details as are called for by architectural needs or desires.

The utility of this is at once evident, for given any concrete with the Con-Text clean-stone bond surface produced on it, any nicety or variety of finish desired may be applied at low cost, yet with full assurance of its permanence and integrity and durable surface appearance.

These subjects of Bonding Surfaces and of Stucco on Concrete are more fully treated in our brochures on these individual subjects.



Con-Texted Concrete in a Formal and Beautiful Construction. New Enclosure Wall, Meridian Hill Park, Washington, D. C. Fred. Drew Company, Constructors, Washington, D. C.



How to Specify CON-TEX

It is always best to specify Con-Text by name.

The following form is commonly used:

Form Surface Work "All surfaces of form-cast concrete, whether pre-cast or cast in place, indicated on the plans or in the specifications or otherwise designated to be surface finished, shall obtain this finished surface by the use of *Form Con-Text* as made and supplied by the Concrete Surface Corporation, 342 Madison Avenue, New York City.

"The grade of Con-Text used shall be suited to the reveal desired by the architect, and specified by him, or marked on the plans.

"All form surfaces, or forms for surfaces that are specified to be of textured concrete obtained by exposing aggregates, shall be given an even coat or coats of Con-Text, taking care to completely cover all areas. Forms shall be clean and dry when Con-Text is applied.

"After removal of forms, the loosened surface of the concrete where it contacted with the Con-Text coating on forms shall be immediately removed by wire brushes or other effective and approved means; and the concrete shall then be thoroughly washed with water and bristle brushes until a clean and even surface is obtained. A final washing down with dilute hydrochloric acid may be required at the architect's option and discretion."

Top Surface Work "All top surfaces of concrete indicated on the plans or in the specifications or otherwise designated to be surface-finished shall obtain this finished surface by the use of *top surface Con-Text*, as made and supplied by the Concrete Surface Corporation, 342 Madison Avenue, New York City.

"The grade of Con-Text used shall be suited to the reveal desired by the architect, and specified by him, or marked on the plans.

"All surfaces that are specified to be of textured concrete obtained by exposing aggregates shall be given an even coat of *Top Surface Con-Text*, taking care to completely cover all areas.

"After the body of the concrete has set the loosened surface of concrete shall be immediately removed by wire brushes or by other effective and approved means; and the surface so exposed shall then be thoroughly washed with water and bristle brushes until a clean and even surface is obtained. A final washing with dilute hydrochloric acid may be required at the architect's option and discretion."



How to Specify CON-TEX IN PUBLIC WORK *Where Trade Names are Not Permissible*

"ALL cast-concrete surfaces indicated on the plans or so referred to in the specifications, or otherwise designated to be surfaced or surface-finished shall be surface-finished by the use of a liquid material painted on the forms before placing concrete, or spread directly on the concrete where so directed, to obtain a revealed aggregate surface.

"The material used to produce this surface finish shall be an approved liquid coating applied to the forms, or in top surface work, applied to the concrete, before it has set; and this approved coating shall meet the following requirements: It shall be composed of colloidal base carrying active material which latter shall operate only after coming in contact with the alkaline fluids or the concrete. This coating liquid shall not contain free acid; shall not contain any ingredient that will injure the aggregate, the reinforcement or the forms; shall dry quickly, and there shall be no after-effects injurious to the concrete or to applied materials. All surfaces, or forms for surfaces that are specified to be textured concrete obtained by exposing aggregates, shall be given an even coat or coats of this liquid, taking care to completely cover all areas. All forms shall be clean and dry.

"Where such coating is applied to forms, after removal of forms, the loosened surface of the concrete shall be immediately removed with wire brushes or other effective and approved means, and the concrete then thoroughly washed with water and with bristle brushes until a clean and even surface is obtained."



Woodland Bridge, Montreal, Canada.

Coarse Stone Mixture Examples



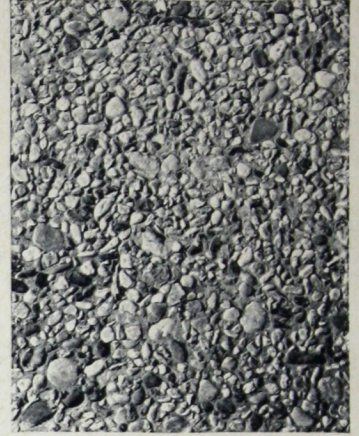
No. 1
Nearly 1 : 2 : 4
(Not enough stone)



No. 2
Mix—1 : 2 : 4½
(Better)



No. 3
Mix—1 : 2 : 5
(This mix best)



No. 4
Mix—1 : 2 : 6
(Too much stone)

Specifications for Concrete

UNIFORMITY in concrete is of the utmost importance. To secure uniformity, endurance, impermeability and high strength, we recommend that concrete, of whatever kind and for whatever purpose, be specified and proportioned on a basis of:

“One part cement, two parts sand and all the stone the mix will comfortably carry, with enough water to give a mushy consistency.”

The above specification always works. It allows for any stone (whether crushed stone or gravel) for any size of stone or any changes in stone supplied, as well as for the characteristics of the sand used, which may change from hour to hour, and for job conditions as well.

We further recommend that specifications provide as follows:

“All concrete shall be deposited evenly and continuously in forms. It shall not be spaded away from forms, but shall be well puddled; and shall be run up in a continuous pour to full height of forms by placing bulkheads at such intervals that a full day's work will consist of the quantity contained between bulkheads and to full height of forms.

“All bulkheads shall be coated with Form Bonding Con-Text, and a clean-stone bonding surface shall be obtained at the end of each section, so that the abutting section shall thoroughly bond to and with each section previously poured.”

Fine Stone Mixture Examples



No. A
1 : 2 : 4½
(Fair)



No. B
1 : 2 : 5½
(Better)



No. C
1 : 2 : 6
(Best)